APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,714	01/31/2000	CHRISTOPHER H. GENLY	INTL-0341-US(P8391)	3825

7590 03/28/2006	**EXAMINER**
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ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/494,714	GENLY, CHRISTOPHER H.
	Examiner	Art Unit	
	Angela A. Armstrong	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 January 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-14,17-23 and 26-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-14,17-23 and 26-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

1.   Claims 1, 12, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schein et al (US Patent No. 6,075,575), hereinafter referred to as Schein, in view of Buil et al

(US Patent No. 6,718,307), hereinafter referred to as Buil and further in view of White et al (US

Patent No. 6,408,272).

2.   As per claims 1, 14, 23, Schein et al. disclose a system/method comprising: a speech

recognizer that recognizes spoken requests for television programming information, (see col. 6,

lines 12-16). Schein fail to explicitly teach a state machine having three states including a first

state in which the state machine is not listening, a second state in which the state machine listens

for only one query, and a third state in which it is listening to all queries, and using the state

machine to provide inputs to a speech recognizer. However, implementation of listening states

in a speech recognizer was well known in the art.

In a similar field of endeavor, Buil discloses a speech input based input device which has

a standby mode in which it can only recognize an activation instruction and an operation al mode

in which it can recognize commands for control of an apparatus, which reads on the three state

listening machine since if the recognizer is off or the system is processing the user's input

provides a state in which the machine is not listening, the standby mode to recognize an

activation instruction provides a state in which the machine is listening for only one query, and

the operational mode to recognize commands for controlling an apparatus provides a state in

which the machine is listening to all queries (col. 4, lines 19-59). Buil specifically teaches the

multiple mode/state of the system reduces the chance of sending unintentional commands to the

apparatus (col. 5, lines 3-14).

Therefore, it would have been obvious to one of ordinary skill at the time of the

invention to modify the system of Schein to implement a multi-mode recognition system, as

taught by Buil, for the purpose of reducing the chance of sending unintentional commands to the

apparatus, as suggested by Buil.

Schien does not explicitly teach if the user makes a new utterance while the state

machine is in the third state and is working on a previous utterance by the user, the state machine

stops working on the user's previous utterance and begins working on the user's new utterance.

However, implementation of barge-in capabilities was well known in the art. White discloses a

voice user interface with a barge-in component (col. 15, lines 40-52), which upon detection of

the user's speech, halts the current VUI processing to attend to the new speech input. It would

have been obvious to one of ordinary skill at the time of the invention to modify the system of

Schein to implement a barge-in component as suggested by White, for the purpose of providing

prompt and efficient recognition and command execution to the user of the system.

3.   As per claim 12, Schein, Buil, and White disclose everything as claimed in claim 1.

Schein further disclose a system including a television coupled to a set top box and a remote

control (see col. 3, lines 21-24).

4.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of

Buil and White, as applied to claim 1 above, and further in view of well known prior art.

As per claim 11 Schein, Buil, and White disclose everything as claimed in claim 1.

Schein fails to explicitly teach a system including a processor coupled to the speaker and a

microphone, the output of said speaker being subtracted from the output of said microphone to

reduce interference. However, subtracting undesired signals from a speech signal input to a

microphone was well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to subtract the output of the speaker from the input of the microphone, as

was well known in the art, for the purpose of improving the operation of the system by reducing

interference, and thereby improving the performance and accuracy of the speech recognizer.

As per claim 31, Schein, Buil, and White disclose everything as claimed in claim 1.

Schein fails to explicitly teach a system including

5.   Claims 13, 22, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schein in view of Buil and White, as applied to claims 1, 14, and 23 above, in view of Tomitsuka

et al (US Patent No. 5,566,271), hereinafter referred to as Tomitsuka, and further in view of

Mueller et al (US Patent No. 6,009,398), hereinafter referred to as Mueller.

6.   As per claims 31-33, Schein, Buil, and White disclose everything as claimed in claims 1,

14, and 23. Additionally, Schein discloses an output device that generates response to spoken requests from

television programming information, (see Fig. 4A).

Schein fail to explicitly teach a system including a module coupled to said recognizer to implement conversational speech. However, this feature was well known in the art.

In a similar field of endeavor, Tomitsuka disclose a system comprising a voice synthesis module for implementing conversational speech, (see Fig. 1, block 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a voice synthesis module in Schein, as taught by Tomitsuka, for the purpose of using a voice synthesis in conjunction with a voice recognition module to improve man-machine interaction, as suggested by Tomitsuka.

Additionally, Schein discloses a graphical user interface which provides information in a visual form about television programming and a voice user interface which responds to voice requests from the user..., (see Fig. 4A and col. 6, lines 36-42).

Schein does not specifically disclose the graphical user interface and voice user interface communicating such that the focus of one is communicated to the other. However this feature was well known.

In a similar field of endeavor, Mueller discloses a system, which allows for user and system interaction via speech, visual and auditory interfaces. Specifically, at col. 4, line 56 continuing to col. 5, line 29, Mueller teaches implementation of a context analyzer which coordinates the speech interactions with the visual interface to accommodate how the user interacts with system when the user provides input via speech or via a text based graphical user interface.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to implement interface focus communication as taught by Mueller, for the purpose of ensuring

system performance when the user provides input via a visual or graphical user interface, as

suggested by Mueller.

As per claims 13, 22, and 30, Schein, Buil, White, Tomitsuka, and Mueller disclose

everything as claimed claims 1, 14 and 23. Schein fail to explicitly teach a system wherein the

output device is a speech synthesizer that generates responses. However, this feature was well

known in the art.

Tomitsuka discloses a system wherein the output device is a speech synthesizer that

generates responses (see Fig. 1, block 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use a voice synthesis module as taught by Tomitsuka in the system of

Schein, for the purpose of improving man-machine interaction, as suggested by Tomitsuka.

7.   Claims 4-8, 17-19, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Schein in view of Buil, White, Tomitsuka and Mueller, as applied to claims 31-33 above,

and further in view of Haddock (US Patent No. 5,265,014).

8.   As per claims 5, 18, and 27, the combination of Schein, Buil, White, Tomitsuka, and

Mueller teach everything as claimed in claims 31-33. However, the combination fails to disclose

producing a select variable and a where variable from a query received from a user. However,

this feature was well known in the art.

In a similar field of endeavor, Haddock teaches the process of how an ambiguous query

is processed and syntactically analyzed to develop a representation of the syntactic structure.

The system produces a syntactic structure based upon a question/sentence format to represent a set of questions, a set of nouns, a set of phrases, and a set of verbs. Additionally, at col. 6, lines 29-41 Haddock discloses that the system characterizes the query to find values of the variable that fulfills the condition or question within the query. In the example provided by Haddock, the query produced the syntactic structure (WHICH X s.t. (PAINT *REF(he) X)), and the request of the query is to find any values of X that meet the condition of (PAINT *REF(he) X). The condition (PAINT REF(he) X), is comprised of a semantic predicate PAINT and two variables, the painter (REF(he)) and the painting (X), which reads on "produces a select variable and a where variable from a query received from a user."

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein to process the query into a syntactic structure with different variables, as taught by Haddock, for the purpose of characterizing the query to find values of the variable that fulfills the condition or question within the query.

As per claims 4, 6, 17, 19, 26, and 28, the combination of Schein, Buil, White, Tomitsuka, and Mueller teach everything as claimed in claims 31-33. However, the combination fails to teach the implementation of historical information to modify the meaning from the users input query. However, this feature was well known in the art.

At col. 6, lines 48-60, Haddock discloses that in the example query, the meaning of the pronoun "he" is ambiguous and in order to resolve the ambiguity for further processing, the system uses the history of the dialog of a previous query to determine the reference to the "he", in order to form the completed query of (WHICH X s.t. (PAINT DEGAS X)), wherein the value of the *REF(he) is obtained from a previous query.

Therefore, it would have been obvious to one of ordinary skill at the time of the

invention to modify the system of Schein to implement historical information to modify the

meaning of the input of the user's input query, as taught by Haddock, for the purpose of

resolving the ambiguity in the input query.

As per claim 7, Schein, Buil, Tomitsuka, Mueller and Haddock teach everything as

claimed in claim 6. However, Schein fails to teach determining whether the query includes both

first and second type of variable and if so, not using the historical information to modify the

user's input query.

At col. 6, lines 39-59, Haddock discloses the functionality of the system for determining

the meaning of an ambiguous query, in which the query representation contains the pronoun

"he". The query is ambiguous because "it is not yet known who the pronoun "he" refers to

because that information lies outside the query" (col. 6, lines 45-47). In this instance the system

uses the history information to determine to whom "he" refers. However, if the utterance

contains both of the attributes of the utterance, there is no ambiguous query and there is no need

to use the history vector, as indicated in col. 5, lines 33-42, in which the query provided includes

the names of the specific painter of whom a user wishes to retrieve information (query 1 and

query 2), which reads on "determining whether the query includes both first and second type of

variable and if so, not using the historical information to alter the meaning derived from the

speech recognizer."

Therefore, it would have been obvious to one of ordinary skill at the time of the invention

to modify the system of Schein, to implement determining whether the query includes both a first

and a second type of variable, for the purpose of reducing unnecessary processing if the meaning

of the query can be ascertained.

As per claim 8, Schein, Buil, White, Tomitsuka, Mueller and Haddock teach everything

as claimed in claim 6. However, Schein fails to teach determining whether the query includes

only one of two variable types, and if so, using the historical information to modify the user's

input query.

At col. 6, lines 39-59, Haddock discloses the functionality of the system for determining

the meaning of an ambiguous query, in which the query representation contains the pronoun

"he". The query is ambiguous because "it is not yet known who the pronoun "he" refers to

because that information lies outside the query" (col. 6, lines 45-47). In this instance the system

uses the history information to determine to whom "he" refers. However, if the utterance

contains both of the attributes of the utterance, there is no ambiguous query and there is no need

to use the history vector, as indicated in col. 5, lines 33-42, in which the query provided includes

the names of the specific painter of whom a user wishes to retrieve information (query 1 and

query 2). At col. 6, line 13, Haddock specifically states that query 2 is ambiguous because of the

pronoun "he", and thus the system must resolve the ambiguity of the query via the history

information. At col. 7, lines 10-35, Haddock refers to the ambiguous fourth query from col. 5,

lines 42-44, in which "these" is used in the query. The system uses history information to

determine the reference of the set or subset of paintings "these" actually refers. Haddock's

determination of needing to use the history dialog to resolve an ambiguous query in one instance

or not needing to use a history dialog in another instance would suggest and/or motivate one of

ordinary skill in the art to specifically determine if an utterance includes all necessary variables.

Additionally, Haddock discloses in order to form the completed query of (WHICH X s.t. (PAINT DEGAS X)), the value of the *REF (he) is obtained from a previous query, which reads on "merge the variable with the historical information to derive a meaning from the request."

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein to implement determining if an input query includes only one of a type of variable, and if so using the history information to form a completed query, as taught by Haddock, for the purpose of reducing ambiguity in the query, as suggested by Haddock.

9.   Claims 9-10, 20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Buil, White, Tomitsuka and Mueller, as applied to claims 31-33 above, and further in view of Houser et al (US Patent No. 5,774,859).

10.   As per claims 9-10, 20, and 29, the combination of Schein, Buil, White, Tomitsuka, and Mueller teaches everything as claimed in claims 31-33. However, the combination does not form time attributes in a request. However, this feature was well known.

In a similar field of endeavor, Houser teaches an information system with a speech interface which controls a device such as a television and access to broadcast information. Specifically, at col. 30, lines 54-64 and col. 31, lines 39-43, Houser implements processing of search requests for television broadcast information based on time ranges ("only within 4 hours" or "only after eleven AM"). At col. 30, lines 56-58, Houser teaches that implementation of time

information commands will limit the search to programming information within an identified

range.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention

to modify the system of Schein and implement time command information as taught by Houser,

for the purpose of limiting the search to programming information within an identified range,

and therefore decrease system response time and enhance system performance.

11.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of

Buil, White, Tomitsuka and Mueller, as applied to claim 32 above, and further in view of well

known prior art.

12.   As per claim 21, Schein, Buil, Tomitsuka, and Mueller disclose everything as claimed in

claim 32. Schein fails to explicitly teach a system including a processor coupled to the speaker

and a microphone, the output of said speaker being subtracted from the output of said

microphone to reduce interference. However, subtracting undesired signals from a speech signal

input to a microphone was well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to subtract the output of the speaker from the input of the microphone, as

was well known in the art, for the purpose of improving the operation of the system by reducing

interference, and thereby improving the performance and accuracy of the speech recognizer.

13.   Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of

Buil and White, as applied to claim 1 above, and further in view of Gould (US Patent No.

6,101,468)

As per claim 31, Schein, Buil, and White disclose everything as claimed in claim 1.

Schein fails to explicitly teach a system including setting a flag when a speech variable

originated from the user's utterance and a second flag when a speech variable has been confirmed

audibly to the user. However, implementation of confirmation flags were well known in the art.

In a similar field of endeavor, Gould discloses apparatuses and methods for training and

operating speech recognition systems which recognizes a user's utterance, presents the

recognized utterance to the user and sets a flag if the user has confirmed the presented utterance

as the actual token/word (col. 13, lines 18-35). Gould specifically teaches setting the flag

provides the system with an indication the particular token is properly labeled and is safe to use

for adaptive training. It would have been obvious to one of ordinary skill at the time of the

invention modify the system of Schein to implement the confirmation flags of Gould, so as to

provide the best tokens of speech that can be used in adaptively training the recognizer, thereby

improving the accuracy and performance of the speech recognizer.

Response to Arguments

14.   Applicant's arguments with respect to claims 1,4-14,17-23, and 26-34 have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
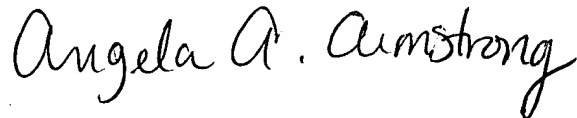
A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Angela A. Armstrong whose telephone number is 571-272-7598.

The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela A Armstrong
Primary Examiner
Art Unit 2626

March 20, 2006